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| 10/644,007 | 08/20/2003 | Kazunori Bannai | 241318US2 | 4866 |
| 22850 | 7590 | 08/10/2007 | | |
| OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314 | | | EXAMINER AL HASHIMI, SARAH | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 2853 | |
| | | | NOTIFICATION DATE | DELIVERY MODE |
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/644,007

Applicant(s)

BANNAI ET AL.

Examiner

Sarah Al-Hashimi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 7-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☒ Claim(s) 6 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 August 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date See Continuation Sheet.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

Continuation of Attachment(s) 3). Information Disclosure Statement(s) (PTO/SB/08), Paper No(s)/Mail Date :08/20/2003,11/20/2003,05/21/2004,01/31/2005,12/15/2005,05/08/2007.

DETAILED ACTION

Election/Restrictions

1. Claims 7-36 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in the reply filed on 07/20/2007.
2. Applicant's election with traverse of claims 1-6 in the reply filed on 07/20/2007 is acknowledged. The traversal is on the ground(s) that the claims are in an overlapping search area. This is not found persuasive because the claims are not limited to one subclass in require a burdensome search without restriction.

The requirement is still deemed proper and is therefore made FINAL.

Priority

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Information Disclosure Statement

4. The information disclosure statements (IDS) submitted on 08/20/2003, 11/20/2003, 05/21/2004, 01/31/2005, 12/15/2005, 05/08/ are in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statements are being considered by the examiner.

Specification

5. Applicant is reminded of the proper language and format for an abstract of the disclosure.

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The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

6. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. **Claims 1-5** are rejected under 35 U.S.C. 102(e) as being anticipated by Udaka (US 6,687,472).

Udaka teaches:

Claim 1: adjusting a position at which one of said image carriers is irradiated with an optical beam in a sub-scanning direction to correct said color shift while said optical

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beam is irradiated from said optical writing device onto said image carriers to develop the latent one-color images (col 6 lines 39-44 "the exposing device 13 applies light to the photosensitive drum, which each of image forming unit 11 has, to form an electrostatic latent image. The exposing device 13 is supplied digital image signals with respect to each of colors via the control unit 31 to the exposing device 13..." and col 11 lines 46-49 "the control unit 31 averages effective block data (step 111), and calculates a correction amount. Thereafter, the control unit 31 executes the actual correcting operation").

Claim 2: said step of adjusting includes reading a pattern written on said image carriers before starting the adjustment for detecting, to detect the color shift among the developed one-color images, and adjusting the position at which the optical beam is irradiated based on the result of reading the pattern (col 6 lines 44-62 "the digital image signals are obtained from, for instance, an image reading apparatus (IIT) and an external personal computer apparatus (PC). An image processing apparatus (not shown) converts the digital image signals before supplied to the exposing device 13. Also, a digital image signal is written with respect to the specific image forming unit 11S by designating a specific-color by a user. The control unit 31 produces a pattern image used to detect a color shift (color deviation). The pattern image is supplied to the exposing device 13. The pattern image is supplied as a control signal of an image writing position as to each of colors to the exposing device 13 corresponding to each of image forming units 11. The pattern image, for instance, is printed on portions, which are located at both edge portions of the transfer belt 21 perpendicular to a travel

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direction of this transfer belt 21 and are not related to image forming onto a recording medium, at a predetermined interval in the travelling direction of the transfer belt 21 with respect to each of colors”).

Claim 3: setting a write timing at which said pattern is written based on a timing at which a reference point provided on one of said image carriers is detected (col 6 lines 62-64 “the control unit 31 sets timing every color based upon the writing positions and supplies a control signal”).

Claim 4: setting a write timing at which said pattern is written based on a timing at which a reference point provided on an intermediate transfer element is detected (col 6 lines 62-64 “the control unit 31 sets timing every color based upon the writing positions and supplies a control signal”).

Claim 5: said step of adjusting includes the steps of: correcting a write timing at which said optical writing device writes an image (col 6 lines 62-64 “the control unit 31 sets timing every color based upon the writing positions and supplies a control signal”); and correcting the position of the optical beam, and wherein said step of correcting a writing timing and said step of correcting the position of the optical beam are executed concurrently (col 6 lines 39-44 “the exposing device 13 applies light to the photosensitive drum, which each of image forming unit 11 has, to form an electrostatic latent image. The exposing device 13 is supplied digital image signals with respect to each of colors via the control unit 31 to the exposing device 13...” and col 11 lines 46-49 “the control unit 31 averages effective block data (step 111), and calculates a correction amount. Thereafter, the control unit 31 executes the actual correcting

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operation" which includes adjusting the beam because the exposure apparatus is being adjusted in response to the required correction).

Allowable Subject Matter

9. **Claim 6** is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The primary reason for the allowance of claim 6 is the inclusion of the method step of said step of correcting the write timing includes correcting a portion corresponding to a quotient derived by dividing an amount of misregistration by a dot pitch, and said step of correcting the position of the optical beam includes correcting a portion corresponding to a residual resulting from the dividing of the amount of misregistration by the dot pitch. It is this step found in claim 6, as it is claimed in the combination of, that has not been found, taught or suggested by the prior art of record which makes these claims allowable over the prior art.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

(US 2003/0016399) discusses an apparatus using a detector to correct color shift based on reading signals.

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(US 5,049,897) discloses a method for correcting beam displacement of an optical apparatus.


(US 5,349,374) discloses a unit that corrects a detection timing to correct color shift.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sarah Al-Hashimi whose telephone number is 571 272 7159. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Stephen Meier can be reached on 571 272 2149. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/SA/


AN H. DO
PRIMARY EXAMINER
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